

Heath Transfer nanofluids and photocatalytic nanomaterials

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TCT Nanotech has developed and is exploring, through different collaborations with universities and research centers, numerous applications of Nanotechnology confirming the importance of this field for industries.

Our core developed product HTF Compact ®, is a patented nanofluid that, thanks to the presence of copper oxide (CuO) nanoparticles, possesses enhanced Heat Transfer properties, therefore able to improve energy efficiency up to 30% in various applications such as HVAC or boiler systems. This innovative product has been installed in a pilot test at the New York Botanical Garden with very promising results such as reduced CO₂ emissions, heavy reduction of energy consumptions and fast ROI.

In the framework of the research project Innonetwork – Fontanapulia, nanoparticles of titanium oxide (TiO₂), produced by TCT with a co-precipitation method, will be immobilized on a solid surface in order to exploit their photocatalytic activity once activated by UV light. The aim is to use this material in wastewater treatment plants and put it in contact with water to remove primary and emerging organic pollutants due to advanced oxidation processes.

The need for efficient industrial techniques for water remediation and greenhouse gases reduction are of paramount importance in our society and Nanotechnologies can serve as an answer to these demands. Both these technologies are eco-friendly, highly performing and very appealing for the market which is now more than ever waiting for open-minded companies and research centers to work together to build a green future.